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CLAIMS

1. A method for the removal of contaminating materials from pipework, said contaminating materials comprising deposits on the pipework which comprise inorganic salts having low solubility levels, wherein said contaminating materials cause a reduction in the effective internal diameter of the pipes and thereby effect a reduction in the rate of flow of a fluid through the pipework, the method comprising treating said contaminating materials with at least one carbamate salt.
2. A method as claimed in claim 1 wherein said inorganic salts are deposited from solutions or suspensions in contact with the pipework.
3. A method as claimed in claim 1 or 2 wherein said inorganic salts comprise phosphate, alkylphosphate, molybdate and phosphomolybdate salts.
4. A method as claimed in claim 3 wherein said salts comprise the phosphate, butylphosphate, molybdate and phosphomolybdate salts of zirconium, tellurium, gadolinium, caesium, iron and uranium.
5. A method as claimed in any one of claims 1 to 4 wherein said contaminating materials comprise partial or total blockages of the pipework.
6. A method as claimed in any preceding claim wherein said carbamate salt comprises an aqueous solution of a carbamate salt.
7. A method as claimed in any preceding claim wherein said carbamate salt comprises ammonium carbamate.
8. A method as claimed in any one of any preceding claim wherein said treatment is carried out at a temperature in the range of from 40°C to 60°C.

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9. A method as claimed in claim 8 wherein said temperature is in the region of 60°C.

10. A method as claimed in any preceding claim wherein said treatment is continued for an extended period of time.

11. A method as claimed in claim 10 wherein said treatment is continued for at least 2 hours.

10 12. A method as claimed in any preceding claim wherein the concentration of said carbamate in aqueous solution is in the range of from 0.3M to 6.0M.

13. A method as claimed in claim 12 wherein said concentration is between 1.0M and 3.0M.

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14. A method as claimed in any preceding claim wherein said treatment is carried out in the presence of at least one additive.

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15. A method as claimed in claim 14 wherein said additive comprises a carbonate or bicarbonate salt.

16. A method as claimed in claim 15 wherein said carbonate or bicarbonate salt comprises caesium carbonate or ammonium bicarbonate.

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17. A method as claimed in any preceding claim wherein said treatment is preceded by pre-treatment with acid and washing with water.

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18. A method as claimed in claim 17 wherein said pre-treatment and washing is carried out at room temperature.

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19. A method as claimed in any one of claims 1 to 16 wherein said treatment is followed by post-treatment with acid and washing with water.
20. A method as claimed in claim 19 wherein said post-treatment and washing is carried out at room temperature.
21. A method as claimed in any one of claims 17 to 20 wherein said acid comprises nitric acid.
- 10 22. A method as claimed in any preceding claim whenever applied to the removal of contaminating materials from pipework in the nuclear processing industry.
23. A method as claimed in claim 22 which comprises the treatment of pipework used in the processing of Highly Active Liquor with an aqueous solution comprising 0.3-1.0M ammonium carbamate and 0.2M caesium carbonate at 60°C for 2 hours.
24. A method as claimed in claim 22 which comprises the treatment of pipework used in the processing of Highly Active Liquor as follows:
 20. (a) treatment with 2.0M nitric acid at room temperature; followed by
 - (b) washing with water at room temperature; followed by
 - 25 (c) treatment with 1.0M or 3.0M aqueous ammonium carbamate solution at 60°C for 2 hours.
25. A method as claimed in claim 22 which comprises the treatment of pipework used in the processing of Highly Active Liquor as follows:
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- (a) Treatment with 1.0M or 3.0M aqueous ammonium carbamate solution at 60°C for 2 hours; followed by
- (b) Treatment with 2.0M nitric acid at room temperature; followed by
- (c) Washing with water at room temperature.